State of Utah

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ADDENDUM #1

Date:	27 September 2005	
To:	Contractors	
From:	Jeff Reddoor, DFCM	
Reference:	Utah Department of Transportation Meadow Maintenance Station Addition DFCM Project No. 04167900	
Subject:	**Addendum No. 1**	
Pages	Addendum	1 pages
	Architects Addendum Attachment	4 pages
	Spec. Section 15838 Attachment	6 pages
	Architects Addendum Drawings (Separate PDF)	24 pages
	Total	**35 pages**

Note: This Addendum shall be included as part of the Contract Documents. Items in this Addendum apply to all drawings and specification sections whether referenced or not involving the portion of the work added, deleted, modified, or otherwise addressed in this Addendum. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

1.1 Reference the attached Architects Addendum and Specification Section 15838.

1.2 The 24 page Addendum #1 Drawings are to be included as part of this addendum.

End of Addendum

addendum 1

DATE: September 26, 2005

DFCM Project No.: 04167900
Archiplex Group Project No.: 050008.01

ADDENDUM NO. 1 to the Contract Documents for the Construction of UDOT Maintenance Station 4532, Meadow, Utah.

The contents of this addendum supersede the information contained in the original Contract Documents and are hereby incorporated therein. Unless otherwise so stated, any changes herein offset only the specific drawings, words, or paragraphs mentioned, and the balance of the drawings and specifications remain if full force.

A. DESCRIPTION OF ADDENDUM ITEMS:

1. The project includes the following three (3) deductive alternates in the order listed below:

   Alternate 1: Deduct the mobile Lift equipment. Continue to provide complete the electrical support necessary including the plug connection.

   Alternate 2: Deduct the Xypex and Ashford Formula Concrete Waterproofing System as described in section 03053. In lieu thereof provide SS Harden X by Seal Source, 845 East 1200 South, Orem, UT 84097, 801.224.3800.

   Alternate 3: Deduct finish painting from metal building system primary frame and secondary structure, girts, and purlins. Also deduct painting item 09900-1 1.2 B. 1. Do not include “field painting of exposed bare and covered pipes and ducts…”

2. The building will be reoriented by rotating 180 degrees on the site plan. All prior references to North will instead refer to South. The entry and exit of utilities will be modified accordingly. See the addendum 1 civil drawing(s) for additional information. The four outside building corner locations remain unchanged.

3. Add the following to specification section 11151 Mobile Lift 1.2 DESCRIPTION C.:

   4 ea. Tall support stands will be supplied with the Mobile Lifting System. Specifications: Minimum capacity of 8 tons per stand. Design shall be tripod style with wheels and a 'T' handle for maneuverability. Support stand shall be spring loaded and adjustable from 52" to 78" with pin stop adjustment.

4. Clarification regarding electrical power:
   a. The GC shall be responsible for providing a complete electrical power installation. Coordinate with Flowell Electric regarding the utility company portion of the work as described in the civil documents.

5. A fugitive dust plan is required.

6. All asphalt patching will be by UDOT. All pavement removal needs to be cut in accordance with 01045 Cutting and Patching.

7. A benchmark to assist with Contractor staking has been set by the Sunrise Engineering.

8. DFCM will hire the services of a special inspector.

9. The specifications for the air compressor described in section 11146 Lubrication Equipment is changed as follows:
    a. 80 gal, vertical tank
    b. 16.8 cfm at 175 psi
    c. 140 to 175 psi pressure
    d. 7.5 hp, 230 v, single phase
    e. Control - start/stop with provision for no load start, with magnetic starter.

10. The Key Control System described in section 08710 Door Hardware is not required.

11. The Shower Curtain, Shower Curtain Rod and Folding Shower Seat described in section 10800 are not required.

12. The signage described in section 10425 1.2A.2. is not Owner provided and will be furnished and installed by the Contractor and purchased from UCI (Utah Correctional Industries).

13. Building insulation is to be R-19 in the walls and R-19 in the roof.

14. Regarding C001 notes 1 and 2: Local permits with the exception of the Health Department for the septic system are not anticipated. State standards apply to this project and the Contractor must comply with DFCM Project General Conditions and other pertinent specification sections.

15. A clearing and grubbing specification has been included in the event that this work is required although it is not anticipated to be necessary. This is to be determined by the Contractor.

16. Contractor to provide and install conduit and pull boxes for phone system. Wiring and installation will be provided by State ITS department.

17. Piped roof drainage lines have been eliminated.

18. Sidewall propeller fan exhaust has been shown in the drawings in lieu of centrifugal roof ventilator unit. Modified specification section 15838 included in this addendum supersedes the prior section in its entirety.

19. As a Contractor's option, vinyl windows may be used in lieu of aluminum specified in section 08520 Aluminum Windows.

20. The steel guardrail at the mezzanine has been eliminated and replaced with a drywall barrier guard.

21. The addition of a 6” concrete curb underneath the walls facing the maintenance bay has been shown in the drawings.

22. A drawing clarification regarding the sand-oil separator has been provided.

23. A drawing clarification regarding the power supply for the mobile lift has been provided.

24. The ship’s ladder slope has been decreased to 60 degrees in the drawings.

25. The fluid drainage from the oil-sand separator will flow to the salt pond as shown in C001, disregard the conflicting note on P601 detail 4.

26. Electrical Addendum items:

    a. Sheet E3.1
        i. Item #1
            1. Exhaust Fan EF-2 location and Horsepower has changed. Fan is now located in the wall above the Mezzanine on Grid C. The fan horsepower has increased to 1 ½ HP and is now 208volt three phase. Provide a magnetic starter at the fan for control from the carbon monoxide system. Wire the fan to a 3pole 20amp circuit breaker in lieu of 2pole breaker. Provide a 120volt circuit to the motorized damper and wire to auxiliary contacts in the starter for interlocking of the damper.
        ii. Item #2
            1. Provide a 208volt three-phase 50amp circuit via a special purpose receptacle on the East wall of the maintenance bay for a mobile lift. Wire the receptacle with #8 conductors to a 3pole 50amp circuit breaker in Panel “A”. Verify exact location and electrical characteristics prior to rough-in.
        iii. Item #3
            1. Verify Electrical characteristics of the Air Compressor prior to ordering electrical equipment.

    b. PRODUCT APPROVAL
        i. Listed Electrical products and manufactures are approved for bidding. This approval does not relieve the supplier, bidder or manufacture from satisfying the intent of the contract documents including addenda in every aspect. Failure to conform to the design quality may result in later disapproval. If any product is disapproved after bidding, the product supplier shall supply specified equipment at no extra cost to the owner. Items listed are approved in general and specific details of performance, ratings, model number, etc. are required as part of the shop drawing process and shall be as submitted.

1. Lighting Fixtures:

    a. A Lithonia, Daybrite LSI
    b. B Lithonia Daybrite LSI
    c. C Lithonia Daybrite LSI
    d. EL Lithonia McPhilben Lightguard Battery capacities must meet specified item.
    e. X1 Lithonia McPhilben EELP
    f. OA Lithonia Daybrite LSI

B. REISSUED DRAWING LIST:

G002 Master Keynote List
C001 Site Plan
C002 Drainage Plan
C003 Drainage Details
C004 Drainage & Trench Details
C005 Sections
A101 First Floor and Mezzanine Plans
A121 First Floor and Mezzanine Reflected Ceiling Plans
A141 Roof Plan
A201 Exterior Elevations
A301 Building Sections
A311 Wall Sections
A401 Enlarged Restroom Floor Plan, Interior Elevations and Details
A402 Enlarged Maintenance Bay and Interior Elevations
A501 Details
A502 Details
S501 Footing and Foundation Details
M001 Mechanical Schedule Sheet
M201 Mechanical Floor Plan
M602 Mechanical Detail Sheet
P201 Plumbing Floor Plan
P601 Plumbing Detail Sheet
E1.1 Electrical Schedules & Notes
E3.1 Power Plan

SECTION 15838 - POWER VENTILATORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Ceiling-mounting ventilators.
2. Propeller fans.

1.3 PERFORMANCE REQUIREMENTS

A. Project Altitude: Base air ratings on actual site elevations.

B. Operating Limits: Classify according to AMCA 99.

1.4 SUBMITTALS

A. Product Data: Include rated capacities, furnished specialties, and accessories for each type of product indicated and include the following:

1. Certified fan performance curves with system operating conditions indicated.
2. Certified fan sound-power ratings.
3. Motor ratings and electrical characteristics, plus motor and electrical accessories.
4. Material gages and finishes, including color charts.
5. Dampers, including housings, linkages, and operators.

B. Shop Drawings: Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.

1. Wiring Diagrams: Power, signal, and control wiring. Differentiate between manufacturer-installed and field-installed wiring.
2. Design Calculations: Calculate requirements for selecting vibration isolators and seismic restraints and for designing vibration isolation bases.
3. Vibration Isolation Base Details: Detail fabrication, including anchorages and attachments to structure and to supported equipment. Include auxiliary motor slides and rails, and base weights.

C. Coordination Drawings: Show roof penetration requirements and reflected ceiling plans drawn to scale and coordinating roof penetrations and units mounted above ceiling. Show the following:

1. Roof framing and support members relative to duct penetrations.
2. Ceiling suspension assembly members.
3. Size and location of initial access modules for acoustical tile.
4. Ceiling-mounted items including light fixtures, diffusers, grilles, speakers, sprinklers, access panels, and special moldings.

D. Maintenance Data: For power ventilators to include in maintenance manuals specified in Division 1.

1.5 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

B. AMCA Compliance: Products shall comply with performance requirements and shall be licensed to use the AMCA-Certified Ratings Seal.

C. NEMA Compliance: Motors and electrical accessories shall comply with NEMA standards.

D. UL Standard: Power ventilators shall comply with UL 705.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver fans as factory-assembled unit, to the extent allowable by shipping limitations, with protective crating and covering.

B. Disassemble and reassemble units, as required for moving to final location, according to manufacturer's written instructions.

C. Lift and support units with manufacturer's designated lifting or supporting points.

1.7 COORDINATION

A. Coordinate size and location of structural-steel support members.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

1. Ceiling-Mounting Ventilators:
   a. Broan Mfg. Co., Inc.
   b. Carnes Company HVAC.
   c. Cook, Loren Company.
   d. ILG Industries, Inc./American Coolair Corp.
   e. JennFan; Div. of Breidert Air Products, Inc.
   f. NuTone Inc.
   g. Penn Ventilation Companies, Inc.

2. Propeller Fans:

a. Acme Engineering & Mfg. Corp.
b. Bayley Fans, Lau Commercial Industrial Fans/Lau Industries.
c. Buffalo Forge Co./Howden Fan Co.
d. Carnes Company HVAC.
e. Chicago Blower Corp.
f. Cincinnati Fan & Ventilator Co.
g. Cook, Loren Company.
h. ILG Industries, Inc./American Coolair Corp.
i. New York Blower Company (The).
j. Penn Ventilation Companies, Inc.

2.2 CEILING-MOUNTING VENTILATORS

A. Description: Centrifugal fans designed for installing in ceiling or wall or for concealed in-line applications.

B. Housing: Steel, lined with acoustical insulation.

C. Fan Wheel: Centrifugal wheels directly mounted on motor shaft. Fan shrouds, motor, and fan wheel shall be removable for service.

D. Grille: Stainless-steel, louvered grille with flange on intake and thumbscrew attachment to fan housing.

E. Electrical Requirements: Junction box for electrical connection on housing and receptacle for motor plug-in.

F. Accessories:
1. Motion Sensor: Motion detector with adjustable shutoff timer.
2. Isolation: Rubber-in-shear vibration isolators.
3. Manufacturer's standard roof jack or wall cap, and transition fittings.

2.3 PROPELLER FANS

A. Description: Belt-driven or direct-driven propeller fans consisting of fan blades, hub, housing, orifice ring, motor, drive assembly, and accessories.

B. Housing: Galvanized steel sheet with flanged edges and integral orifice ring with baked-enamel finish coat applied after assembly.

C. Steel Fan Wheels: Formed-steel blades riveted to heavy-gage steel spider bolted to cast-iron hub.

D. Fan Wheel: Replaceable, extruded-aluminum, airfoil blades fastened to cast-aluminum hub; factory set pitch angle of blades.

E. Belt-Driven Drive Assembly: Resiliently mounted to housing, statically and dynamically balanced and selected for continuous operation at maximum rated fan speed and motor horsepower, with final alignment and belt adjustment made after installation.

1. Service Factor Based on Fan Motor: 1.4.
2. Fan Shaft: Turned, ground, and polished steel; keyed to wheel hub.
3. Shaft Bearings: Permanently lubricated, permanently sealed, self-aligning ball bearings.

a. Ball-Bearing Rating Life: ABMA 9, L_{10} of 100,000 hours.

4. Pulleys: Cast iron with split, tapered bushing; dynamically balanced at factory.
5. Motor Pulleys: Adjustable pitch for use with motors through 5 hp; fixed pitch for use with motors larger than 5 hp. Select pulley so pitch adjustment is at the middle of adjustment range at fan design conditions.
6. Belts: Oil resistant, nonsparking, and nonstatic; matched sets for multiple belt drives.
7. Belt Guards: Fabricate of steel for motors mounted on outside of fan cabinet.

F. Accessories:

1. Motorized Damper: Aluminum blades in aluminum frame; interlocked blades with nylon bearings.
2. Motor-Side Back Guard: Galvanized steel, complying with OSHA specifications, removable for maintenance.
3. Wall Sleeve: Galvanized steel to match fan and accessory size.
4. Disconnect Switch: Nonfusible type, with thermal-overload protection mounted inside fan housing, factory wired through an internal aluminum conduit.

2.4 MOTORS

A. Comply with requirements in Division 15 Section "Motors."

B. Enclosure Type: Guarded dripproof.

2.5 SOURCE QUALITY CONTROL

A. Sound-Power Level Ratings: Comply with AMCA 301, "Methods for Calculating Fan Sound Ratings from Laboratory Test Data." Factory test fans according to AMCA 300, "Reverberant Room Method for Sound Testing of Fans." Label fans with the AMCA-Certified Ratings Seal.

B. Fan Performance Ratings: Establish flow rate, pressure, power, air density, speed of rotation, and efficiency by factory tests and ratings according to AMCA 210, "Laboratory Methods of Testing Fans for Rating."

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install power ventilators level and plumb.

B. Ceiling Units: Suspend units from structure; use steel wire or metal straps.

C. Install units with clearances for service and maintenance.

D. Label units according to requirements specified in Division 15 Section "Mechanical Identification."

3.2 CONNECTIONS

A. Duct installation and connection requirements are specified in other Division 15 Sections. Drawings indicate general arrangement of ducts and duct accessories. Make final duct connections with flexible connectors. Flexible connectors are specified in Division 15 Section "Duct Accessories."

B. Install ducts adjacent to power ventilators to allow service and maintenance.

C. Ground equipment.

D. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

3.3 FIELD QUALITY CONTROL

A. Equipment Startup Checks:

1. Verify that shipping, blocking, and bracing are removed.
2. Verify that unit is secure on mountings and supporting devices and that connections to ducts and electrical components are complete. Verify that proper thermal-overload protection is installed in motors, starters, and disconnect switches.
3. Verify that cleaning and adjusting are complete.
4. Disconnect fan drive from motor, verify proper motor rotation direction, and verify fan wheel free rotation and smooth bearing operation. Reconnect fan drive system, align and adjust belts, and install belt guards.
5. Verify lubrication for bearings and other moving parts.
6. Verify that manual and automatic volume control and fire and smoke dampers in connected ductwork systems are in fully open position.
7. Disable automatic temperature-control operators.

B. Starting Procedures:

1. Energize motor and adjust fan to indicated rpm.
2. Measure and record motor voltage and amperage.

C. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation. Remove malfunctioning units, replace with new units, and retest.

D. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

E. Shut unit down and reconnect automatic temperature-control operators.

F. Refer to Division 15 Section "Testing, Adjusting, and Balancing" for testing, adjusting, and balancing procedures.

G. Replace fan and motor pulleys as required to achieve design airflow.

H. Repair or replace malfunctioning units. Retest as specified above after repairs or replacements are made.

3.4 ADJUSTING

A. Adjust damper linkages for proper damper operation.

B. Adjust belt tension.

C. Lubricate bearings.

3.5 CLEANING

A. On completion of installation, internally clean fans according to manufacturer's written instructions. Remove foreign material and construction debris. Vacuum fan wheel and cabinet.

B. After completing system installation, including outlet fitting and devices, inspect exposed finish. Remove burrs, dirt, and construction debris and repair damaged finishes.

3.6 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain power ventilators.

1. Train Owner's maintenance personnel on procedures and schedules for starting and stopping, troubleshooting, servicing, and maintaining equipment and schedules.
2. Review data in maintenance manuals. Refer to Division 1 Section "Closeout Procedures."
3. Review data in maintenance manuals. Refer to Division 1 Section "Operation and Maintenance Data."
4. Schedule training with Owner, through Architect, with at least seven days' advance notice.

END OF SECTION 15838